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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,272	09/10/2003	Jin-Hee Kim	1567.1054	4031
49455 7590 06/04/2007 STEIN, MCEWEN & BUI, LLP 1400 EYE STREET, NW SUITE 300 WASHINGTON, DC 20005			EXAMINER WEINER, LAURA S	
			ART UNIT 1745	PAPER NUMBER
			MAIL DATE 06/04/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/658,272		KIM ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Laura S. Weiner		1745	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 March 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) 13-20 and 22-48 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12, 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4-07</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-12, 21 have been considered but are moot in view of the new ground(s) of rejection.

### ***Election/Restrictions***

2. Applicant's election with traverse of Group I, claims 1-20 in the reply filed on 8-18-06 is acknowledged. The election of species of additive of Formula (1), (bisphenol A) where R1 and R2 are hydroxyl groups and R3, R3 are methyl groups and a solvent comprising a cyclic carbonate and a linear carbonate is acknowledged. Group II, claim 21 has also been examined. The elected species of an additive being bisphenol A has been found allowable, an additive comprising a compound of Formula (1) has been found allowable and an additive comprising compound Formula (2) has been found allowable. The next species searched was Formula (4).
3. Claims 13-20, 22-48 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention and species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 8-18-06.

***Claim Rejections - 35 USC § 102***

4. Claims 1-6, 8-12, 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Maejima (JP 10-21958, abstract).

Maejima teaches a lithium secondary battery comprising 0.001-0.2 mol/l of a quinone as a non-electrolytic substance containing the chemical formulas 1-6. Maejima teaches in column 10, [0022], that the electrolyte comprises EC, DMC and LiPF<sub>6</sub> and other salts such as LiCl<sub>4</sub>, LiBF<sub>4</sub>, etc. Maejima teaches in column 9, [0024], that the positive electrode comprises LiMn<sub>2</sub>O<sub>4</sub>, LiNiO<sub>2</sub>, etc.

5. Claims 1-6, 8-12, 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakai et al. (JP 11-40194, abstract).

Sakai et al. teaches a battery comprising an electrolyte containing a stabilizing agent selected from naphthoquinone, etc. Sakai et al. teaches in column 3, [0011], that the electrolyte comprises LiPF<sub>6</sub>, LiBF<sub>4</sub> at 0.5-1.5 mol/l. Sakai et al. teaches in column 5, [0022], that the electrolyte comprises EC, DEC, DMC and EMC.

***Claim Rejections - 35 USC § 103***

6. Claim 7 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Maejima (JP 10-21958, abstract) or Sakai et al. (JP 11-40194, abstract).

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Maejima teaches a lithium secondary battery comprising 0.001-0.2 mol/l of a quinone as a non-electrolytic substance containing the chemical formulas 1-6. Maejima teaches in column 10, [0022], that the electrolyte comprises EC, DMC and LiPF<sub>6</sub> and other salts such as LiCl<sub>4</sub>, LiBF<sub>4</sub>, etc. Maejima teaches in column 9, [0024], that the positive electrode comprises LiMn<sub>2</sub>O<sub>4</sub>, LiNiO<sub>2</sub>, etc.

Sakai et al. teaches a battery comprising an electrolyte containing a stabilizing agent selected from naphthoquinone, etc. Sakai et al. teaches in column 3, [0011], that the electrolyte comprises LiPF<sub>6</sub>, LiBF<sub>4</sub> at 0.5-1.5 mol/l. Sakai et al. teaches in column 5, [0022], that the electrolyte comprises EC, DEC, DMC and EMC.

Since Maejima or Sakai et al. teaches the same electrolyte comprising a lithium salt, an organic solvent and a naphthoquinone additive then inherently the additive forms a passivation layer on the surface of the positive electrode must also be obtained.

In addition, the presently claimed property of the additive forms a passivation layer on the surface of the positive electrode would have obviously have been present once the Maejima or Sakai et al. product is provided. *In re Best*, 195 USPQ 433 (CCPA 1977).

### **Conclusion**

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

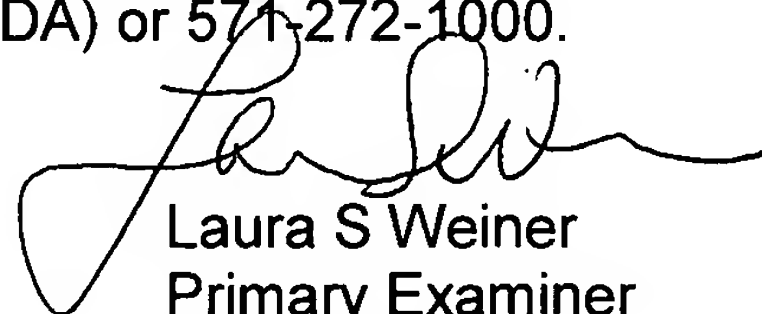
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura S. Weiner whose telephone number is 571-272-1294. The examiner can normally be reached on M-F (6:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Laura S Weiner  
Primary Examiner  
Art Unit 1745

May 23, 2007